

UNIVERSITI TEKNOLOGI MARA

**DOCUMENTATION OF HERITAGE
BUILDING USING DIGITAL CLOSE-
RANGE PHOTOGRAMMETRY AT
MUZIUM PERAK**

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Disertation submitted in partial fulfillment
of the requirements for the degree of
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(AP220)

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

This research explores the use of Digital Close Range Photogrammetry (DCRP) function techniques to document a heritage building in Taiping, Perak, which is Muzium Perak. The point of discussion is to demonstrate the knowledge of its use of ability to preserve the building façade structure and building design of cultural heritage. Heritage building is very important to ensure that our generation knows about this country's history. This approach made data acquisition affordable as the non-metric digital camera is affordable and accessible to all. Besides, the practical methodology is implemented the familiar software that is PhotoModeler to document the building façade in 3D modelling using DCRP approach. DCRP approach can provide the documentation of building information such as dimension measurement of structural, detail pattern of cultural, and the position of the all building structure x, y, and z data. In addition, documentation process also approach in LoD3 to get more details on the structures of building. In time, DCRP techniques can produce the photorealistic 3D model of the building facade to visual the details and characteristics of the building façade to people. This technique is also very simple, time saving and precision compared to conventional drawing methods in calculated drawing projects. The 3D information data can help to make preservation process of building in case the building face some damage such as effect from the environmental factor for example aging, humidity, and weather. In addition, other disaster like flood, earthquake and fires can also resulting damages for building. This research shows the method of measurement, display and modelling to be presented on the basis of the DCRP technique. Lastly, the output of this research is an accurate and precise virtual 3D photorealistic textured model of façade, 3D model viewing and some accuracy assessment of selected control points.

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